

**High-throughput sequencing analysis revealed the regulation patterns of small RNAs on the development of *A. comosus* var. *bracteatus* leaves.**

Ying-Yuan Xiong<sup>1</sup>, Jun Ma<sup>1\*</sup>, Ye-Hua He<sup>2</sup>, Zhen Lin<sup>1</sup>, Xia Li<sup>1</sup>, San-Miao Yu<sup>1</sup>, Rui-Xue Li<sup>1</sup>, Fu-Xing Jiang<sup>1</sup>, Xi Li<sup>1</sup>, Zhuo Huang<sup>1</sup>, Ling-Xia Sun<sup>1</sup>

<sup>1</sup> College of Landscape Architecture of Sichuan Agricultural University, Chengdu, Sichuan 611100, China.

<sup>2</sup> Horticultural Biotechnology College of South China Agricultural University, Guangzhou, Guangdong 510642, China.

\*Corresponding author; E-mail: junma365@hotmail.com

Tel/Fax: +86-28-82652812.

## Supplementary Information

### SUPPLEMENTARY TABLES

**Table S1.** Primers of nine miRNAs for reverse transcription and qRT-PCR.

miRNA	Primer for reverse transcription	Sense Primer for qRT-PCR
<i>Ab-miR3</i>	GTCGTATCCAGTGCAGGGTCCGAGGT ATT CGCACTGGATACGACAGCTCT	GTCCGAAGTGCTGTTGAGT
<i>Ab-miR52</i>	GTCGTATCCAGTGCAGGGTCCGAGGT ATT CGCACTGGATACGACC GTGAG	TCTCGCTCTCCTCTTCTCACG
<i>Ab-miR82</i>	GTCGTATCCAGTGCAGGGTCCGAGGT ATT CGCACTGGATACGACAAGAAG	CCGCTGTACCCTCTCTTCTTCTT
<i>Ab-miR108</i>	GTCGTATCCAGTGCAGGGTCCGAGGT ATT CGCACTGGATACGACGCCGCC	TCGTCGGAGGCGGCGT
<i>Ab-miR135</i>	GTCGTATCCAGTGCAGGGTCCGAGGT ATT CGCACTGGATACGACCACCAT	GGTTAGGCTCAGAAGGTATGG
<i>Ab-miR101</i>	GTCGTATCCAGTGCAGGGTCCGAGGT ATT CGCACTGGATACGACCTCCTC	TTGGAAGGGGCATGCAG
<i>Ab-miR11</i>	GTCGTATCCAGTGCAGGGTCCGAGGT ATT CGCACTGGATACGACCTCCTC	TGGAAGGGGCATGCAGAG
<i>Ab-miR125</i>	GTCGTATCCAGTGCAGGGTCCGAGGT ATT CGCACTGGATACGACGAGTCG	GGTGATCTGATAAGAAC GCGACT
<i>Ab-miR104</i>	GTCGTATCCAGTGCAGGGTCCGAGGT ATT CGCACTGGATACGACAAGAAG	CTCTCTTCTTGCGTATCCAGTG
<i>U6</i>		F:GGGGACATCCGATAAAATTGG R:CATTCTCGATTGTGCGTGTC

**Table S2.** Primers of nine potential target genes.

gene	Primer (5'-3')
chlorophyll a-b binding protein of LHCII	F: GATTGGTTGTGGGTTGTG R: TATCCTCTTCCTCATCCT
tetrapyrrole-binding protein	F: ACCATCACACACTACAAG R: TCTAAGGAGGAAGAGGAC
PsbP	F: AGAACAAAGAACAAAGAACAAAG R: AAGTAGGCTCTGAACAAAC
sedoheptulose-1,7-bisphosphatase	F: TACTTATGTTCTCGCTCTC R: GATTGATGTAGTGTCCTAAC
ferredoxin-thioredoxin reductase	F: GGACGATCAAGCAGTACG R: ATTCGGATCAGGAACCTCG
NADH dehydrogenase	F: AGGAATGGAGGAACCTAATAAC R: GCCCGAGAACATATTGAC
polyphenol oxidase	F: AATAACAACTCCACTCTC R: GTTTGGGACTCTTACAAG
Granule-bound starch synthase	F: GGTCTTAATCTAACACAGTGA R: AGAGCGGTATGCCAATCA
phosphoenolpyruvate carboxylase	F: TATGGTTGGTTACTCTGATTG R: GTCCTCTTGTGCCTTATAC
Histone	F: TATAGCGAACGCATATTGAA R: TTTGGCAGTAAAGTTCTT
18S	F: ATGGTGGTGACGGGTGAC R: CAGACACTAAAGCGCCCGTA
$\alpha$ -tubulin	F: CCATACAATAGCGTCCTA R: ATAGCCTCGTTATCCAATA

**Table S3.** Statistics of small RNA sequencing in six samples.

Samples	Raw reads	Containing 'N' reads	<18 nt reads	>30 nt reads	Clean reads	Q30(%)
GS1	24213560	0	5432522	2770908	16010130	96.71
GS2	20358050	0	521673	1431317	18405060	96.74
GS3	20037144	0	672333	1534965	17829846	96.92
WS1	20131963	0	2417474	978329	16736160	96.82
WS2	19300504	0	881390	971884	17447230	96.79
WS3	20162392	0	666854	2291470	17204068	96.58

**Table S4.** Distribution of small RNAs in different categories.

Types	GS1	GS2	GS3	WS1	WS2	WS3
rRNA	7.81%	15.20%	16.68%	17.99%	19.75%	28.60%
scRNA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
snRNA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
snoRNA	0.07%	0.01%	0.01%	0.04%	0.01%	0.01%
tRNA	2.44%	0.80%	0.89%	1.11%	0.74%	1.35%
Repbase	0.88%	0.07%	0.09%	0.12%	0.08%	0.08%
Unannotated	88.80%	83.91%	82.33%	80.75%	79.42%	69.96%

**Table S5.** The sequence of the 163 miRNAs detected in *A. comosus* var. *Bracteatus*.

ID	#miRNA	sequence
<i>Ab</i> -miR1	conservative_LG01_1405	TTGGACTGAAGGGAGCTCCT
<i>Ab</i> -miR2	conservative_LG01_21	TCGGACCAGGCTTCATTCCCTC
<i>Ab</i> -miR3	conservative_LG01_660	AAGTGCTGTTGAGTAGAGCT
<i>Ab</i> -miR4	conservative_LG02_3244	TGACAGAAGAGAGTGAGCAC
<i>Ab</i> -miR5	conservative_LG02_3935	ACGGACTGCTGTGATCCTAATAGC
<i>Ab</i> -miR6	conservative_LG02_3947	CTGAAGTGTGTTGGGGAACTC
<i>Ab</i> -miR7	conservative_LG02_3949	CTGAAGTGTGTTGGGGAACTC
<i>Ab</i> -miR8	conservative_LG02_3951	TGAAGTGTGTTGGGGAACTC
<i>Ab</i> -miR9	conservative_LG02_3996	CAGCCAAGGATGACTGCCG
<i>Ab</i> -miR10	conservative_LG03_5739	TCGGACCAGGCTTCATTCCCC
<i>Ab</i> -miR11	conservative_LG03_5854	TGGAAGGGGCATGCAGAGGAG
<i>Ab</i> -miR12	conservative_LG03_5935	AGTGATCTGGCTGTGTTGAGTCG
<i>Ab</i> -miR13	conservative_LG04_7077	TGGAGAACGAGGCACGTGCA
<i>Ab</i> -miR14	conservative_LG04_7078	TGGAGAACGAGGCACGTGCA
<i>Ab</i> -miR15	conservative_LG04_7198	TGAAGCTGCCAGCATGATCTGA
<i>Ab</i> -miR16	conservative_LG04_8194	TCGGACCAGGCTTCATTCCCTC
<i>Ab</i> -miR17	conservative_LG04_8801	ATTTGTTGATCGTATCATGTTGTT
<i>Ab</i> -miR18	conservative_LG05_10088	TTGGACTGAAGGGAGCTCCCT
<i>Ab</i> -miR19	conservative_LG05_9023	TGCCAAAGGAGATTGCCAG
<i>Ab</i> -miR20	conservative_LG05_9880	TTGACAGAACGATAGAGAGC
<i>Ab</i> -miR21	conservative_LG06_11504	TGGAGAACGAGGCACGTGTG
<i>Ab</i> -miR22	conservative_LG06_12427	TGGAGAACGAGGCACGTGTG
<i>Ab</i> -miR23	conservative_LG07_12932	TGAAGGACGCAGTAACAAACTATT
<i>Ab</i> -miR24	conservative_LG07_13015	AAGAACTGCTGTACTCCTAATAGT
<i>Ab</i> -miR25	conservative_LG07_13430	GTAAGGATTGTACTAAAGACGGT
<i>Ab</i> -miR26	conservative_LG07_14572	TTGAGCCCGTCAATATCTCC
<i>Ab</i> -miR27	conservative_LG08_15328	TGGAAGGGGCATGCAGAGGAG
<i>Ab</i> -miR28	conservative_LG08_15432	TCGGACCAGGCTTCATTCCCC
<i>Ab</i> -miR29	conservative_LG08_15507	TCCGGCTGTTATGCTATGATAGC
<i>Ab</i> -miR30	conservative_LG09_16236	TGCCTGGCTCCCTGTATGCCA
<i>Ab</i> -miR31	conservative_LG10_18160	TGACAGAACGAGAGTGAGCAC
<i>Ab</i> -miR32	conservative_LG10_18162	TGACAGAACGAGAGTGAGCAC
<i>Ab</i> -miR33	conservative_LG10_18163	TGACAGAACGAGAGTGAGCAC
<i>Ab</i> -miR34	conservative_LG10_18164	TGACAGAACGAGAGTGAGCAC
<i>Ab</i> -miR35	conservative_LG10_18166	TGACAGAACGAGAGTGAGCAC
<i>Ab</i> -miR36	conservative_LG10_18207	TGCCAAAGGAGATTGCCAG
<i>Ab</i> -miR37	conservative_LG10_18267	CTTGGATTGAAGGGAGCTCC
<i>Ab</i> -miR38	conservative_LG10_19138	TTGGACTGAAGGGAGCTCCTA
<i>Ab</i> -miR39	conservative_LG10_19250	TGCCAAAGGAGATTGCCCTG

<i>Ab</i> -miR40	conservative_LG10_19906	AACCTGTTAAGGGGTGGGATACCA
<i>Ab</i> -miR41	conservative_LG11_20645	ACCGATCAAATCTGACATCAAATC
<i>Ab</i> -miR42	conservative_LG11_21011	TTGGACTGAAGGGAGCTCCCT
<i>Ab</i> -miR43	conservative_LG11_21021	TGCCAAAGGAGAATTGCCCTG
<i>Ab</i> -miR44	conservative_LG11_21080	TGACAGAAGAGAGTGAGCAC
<i>Ab</i> -miR45	conservative_LG11_21684	AGCCGGCTTTGTAGCAAATT
<i>Ab</i> -miR46	conservative_LG11_21960	TGCCAAAGGAGACTTGCCCCG
<i>Ab</i> -miR47	conservative_LG11_21962	TGCCAAAGGAGATTGCCAG
<i>Ab</i> -miR48	conservative_LG12_22031	TGCAC TG CCTT CC CT GG C
<i>Ab</i> -miR49	conservative_LG12_22520	ATGGATTGCTCAGTTAACGACGG
<i>Ab</i> -miR50	conservative_LG12_22841	TGGAGAACGCAGGGCACGTGCA
<i>Ab</i> -miR51	conservative_LG12_22843	AAGCTCAGGAGGGATAGCGCC
<i>Ab</i> -miR52	conservative_LG12_23566	TCTCGCTCCTCTTCACG
<i>Ab</i> -miR53	conservative_LG12_23602	TGCCTGGCTCCCTGTATGCCA
<i>Ab</i> -miR54	conservative_LG13_23697	AAGCTCAGGAGGGATAGCGCC
<i>Ab</i> -miR55	conservative_LG13_23700	TGGAGAACGCAGGGCACGTGCA
<i>Ab</i> -miR56	conservative_LG13_23931	GACGTCGATTGGAGGGCCGTT
<i>Ab</i> -miR57	conservative_LG13_24414	AGTTACTAATTCATGATCTGGC
<i>Ab</i> -miR58	conservative_LG13_24453	TCCAAGGGATCGCATTGATC
<i>Ab</i> -miR59	conservative_LG13_24751	GATAGATCTAATGGTAAAAACTT
<i>Ab</i> -miR60	conservative_LG14_25307	AGAAGTTGTTTAGAAGCTGGCC
<i>Ab</i> -miR61	conservative_LG14_25482	TTCGCAGGAGAGATGATGCCG
<i>Ab</i> -miR62	conservative_LG14_25749	TTGAGCCCGCCAATATCTCT
<i>Ab</i> -miR63	conservative_LG14_25928	TGCCTGGCTCCCTGAATGCCA
<i>Ab</i> -miR64	conservative_LG14_26022	GATAGATCTAATGGTAAAAACTT
<i>Ab</i> -miR65	conservative_LG14_26031	TGCCTGGCTCCCTGTATGCCA
<i>Ab</i> -miR66	conservative_LG14_26085	TGACAGAACGAGAGTGAGCAC
<i>Ab</i> -miR67	conservative_LG15_26794	TGAAGCTGCCAGCATGATCTGA
<i>Ab</i> -miR68	conservative_LG15_26799	TCGGACCAGGCTTCATTCCCC
<i>Ab</i> -miR69	conservative_LG16_28613	ATTGGATGGATGGGTGTAAGATG
<i>Ab</i> -miR70	conservative_LG16_29088	AGAAGTAGAAGTTCAAATTAAAG
<i>Ab</i> -miR71	conservative_LG16_29194	TGACAGAACGAGAGTGAGCAC
<i>Ab</i> -miR72	conservative_LG17_30239	CTAAAGATGGTGCTGAAGGTA
<i>Ab</i> -miR73	conservative_LG18_31927	AGAATCTGATGATGCTGCAT
<i>Ab</i> -miR74	conservative_LG18_31940	TCCAAGGGATCGCATTGATC
<i>Ab</i> -miR75	conservative_LG18_32300	GTGATTGCTGGTAACCTGACAGC
<i>Ab</i> -miR76	conservative_LG19_33150	CTGACAGAACGAGAGTGAGCAC
<i>Ab</i> -miR77	conservative_LG19_33267	TTGAGCCCGCCAATATCACGT
<i>Ab</i> -miR78	conservative_LG19_33892	GTGTGACAGTGTAGAATT CCT
<i>Ab</i> -miR79	conservative_LG20_34640	TGACAGAACGAGAGTGAGCAC
<i>Ab</i> -miR80	conservative_LG20_34760	TGCCTGGCTCCCTGAATGCCA
<i>Ab</i> -miR81	conservative_LG20_35412	GATGGATGGTTGGTAGGTTGCGGT

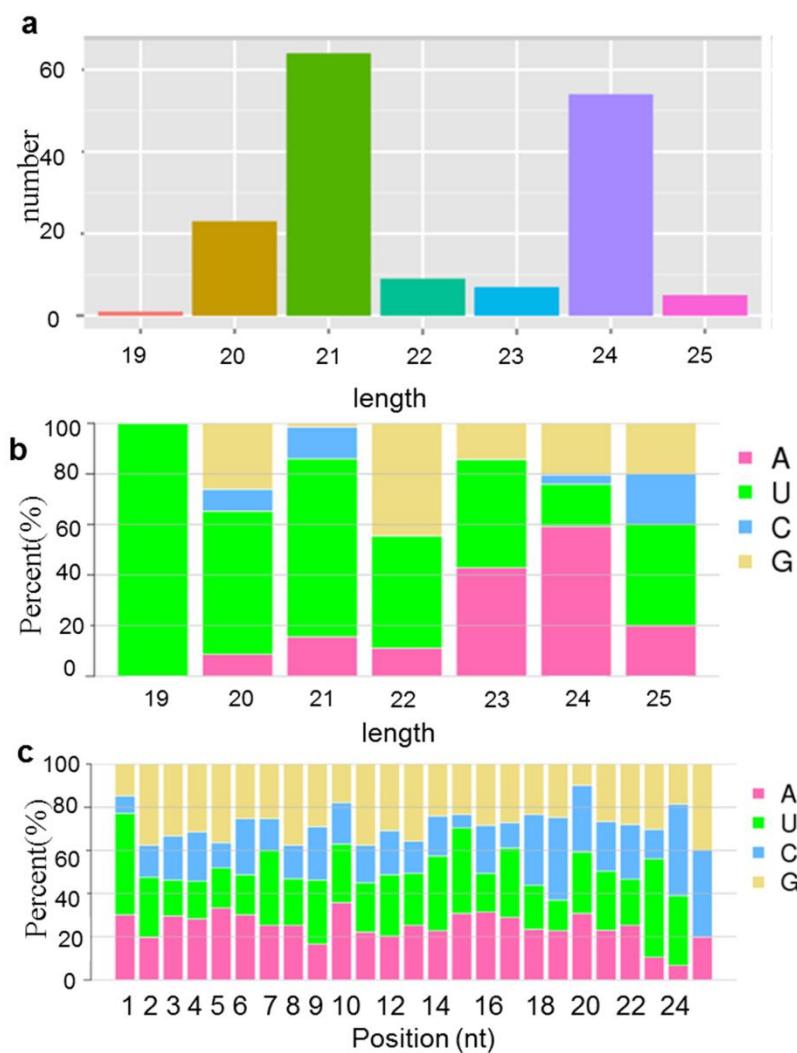
<i>Ab</i> -miR82	conservative_LG21_36615	GCTGTACCCCTCTCTCTTCTT
<i>Ab</i> -miR83	conservative_LG21_36754	ATTCAAGAAGCATGTAGTATTGG
<i>Ab</i> -miR84	conservative_LG21_36808	GCAATGGTATCTAATAAGTTT
<i>Ab</i> -miR85	conservative_LG21_37186	TTAGATGACCATCAACAAACA
<i>Ab</i> -miR86	conservative_LG21_37187	TTAGATGACCATCAACAAACA
<i>Ab</i> -miR87	conservative_LG22_37671	GGGCTTCTCTCTGTTGGCAGC
<i>Ab</i> -miR88	conservative_LG22_37672	GGGCTTCTCTCTGTTGGCAGC
<i>Ab</i> -miR89	conservative_LG22_37673	GGGCTTCTCTCTGTTGGCAGC
<i>Ab</i> -miR90	conservative_LG22_37927	AGAACATCTTGATGATGCTGCAT
<i>Ab</i> -miR91	conservative_LG22_38055	GTAAGGATTGTACTAAAGACGGT
<i>Ab</i> -miR92	conservative_LG23_38768	TGCTCTGCCGCAGGATTTCTG
<i>Ab</i> -miR93	conservative_LG24_39753	CCCGCCTTGCACCAAATGAAT
<i>Ab</i> -miR94	conservative_LG24_39803	AGTGCTTCTCTGTTGCCGCGGT
<i>Ab</i> -miR95	conservative_LG24_40236	ACGGTCGGTGACATTTTGTAATC
<i>Ab</i> -miR96	conservative_LG25_40954	TCCACAGGGTTCTTGAAC TG
<i>Ab</i> -miR97	conservative_LG25_40955	TCCACAGGGTTCTTGAAC TG
<i>Ab</i> -miR98	conservative_LG25_41005	AGAACATCTTGATGATGCTGCAT
<i>Ab</i> -miR99	conservative_LG25_41161	GATTGGCTTGTATTGATGACGTG
<i>Ab</i> -miR100	conservative_scaffold_1170_45020	TGCCTGGCTCCCTGAATGCCA
<i>Ab</i> -miR101	conservative_scaffold_1376_45867	TGGAAGGGGCATGCAGAGGAG
<i>Ab</i> -miR102	conservative_scaffold_1613_46696	TTGGACTGAAGGGAGCTCCTA
<i>Ab</i> -miR103	conservative_scaffold_638_42394	ACCGATCAAATCTGACATCAAATC
<i>Ab</i> -miR104	conservative_scaffold_980_44150	GCTGTACCCCTCTCTTCTT
<i>Ab</i> -miR105	unconservative_LG01_1381	ATTTGGATTAGCTAACCCACCT
<i>Ab</i> -miR106	unconservative_LG01_2688	ATATTGGACCTTTGAGACA
<i>Ab</i> -miR107	unconservative_LG01_2689	ATATTGGACCTTTGAGACA
<i>Ab</i> -miR108	unconservative_LG01_3	AGATGTATCGCGTCGGAGGCGGC
<i>Ab</i> -miR109	unconservative_LG01_37	GTAGGAATTGTACTAAAGACGGT
<i>Ab</i> -miR110	unconservative_LG01_763	ATTTGGATTAGCTAACCCACCT
<i>Ab</i> -miR111	unconservative_LG01_798	AGGGCGTCTCTTATAGAACAGG
<i>Ab</i> -miR112	unconservative_LG02_3879	AAAAACTGCTGTACTCCTAATAGC
<i>Ab</i> -miR113	unconservative_LG02_4026	TTACAAAGACGGTGAACGATTCAC
<i>Ab</i> -miR114	unconservative_LG02_4661	AAGTGTGACAGTGTAGAATTCTC
<i>Ab</i> -miR115	unconservative_LG02_4662	AAGTGTGACAGTGTAGAATTCTC
<i>Ab</i> -miR116	unconservative_LG03_5880	TGTTGGTTCGACTCACTCAGG
<i>Ab</i> -miR117	unconservative_LG03_7021	CAGTTAATATCTGATACGTGGGCC
<i>Ab</i> -miR118	unconservative_LG04_8716	AAAGGCTGCTGTGCTCTAACAGC
<i>Ab</i> -miR119	unconservative_LG05_10886	TCTTGGGTTCGAATTAGGAATT
<i>Ab</i> -miR120	unconservative_LG05_10952	AGTAAACGGGAGTGGACATAGCAT
<i>Ab</i> -miR121	unconservative_LG05_9917	TTGGGCCTCCAGCTAGAACCT
<i>Ab</i> -miR122	unconservative_LG06_11055	AAGTGCTCTGGCAATATCAATTCC
<i>Ab</i> -miR123	unconservative_LG06_12295	CGTGGATTGAAACATGAGGGCGTG

<i>Ab</i> -miR124	unconservative_LG08_14766	AGTGATGGGAGAATTTCTG
<i>Ab</i> -miR125	unconservative_LG09_17100	TGATCTGATAAGAACGACTC
<i>Ab</i> -miR126	unconservative_LG09_17859	GTGTCCTATAATCTAATTCTGTT
<i>Ab</i> -miR127	unconservative_LG10_20027	GGCGGATGTAGCCAAGTGGAA
<i>Ab</i> -miR128	unconservative_LG12_22784	ATATTATTAATAAGTCAGCATTGT
<i>Ab</i> -miR129	unconservative_LG12_23098	ATGTGACTTGACGAATGTTGATT
<i>Ab</i> -miR130	unconservative_LG12_23530	AATGGCGGATGGAACGGTCTCACT
<i>Ab</i> -miR131	unconservative_LG12_23592	AACACATAGATTGCTGGCTCATC
<i>Ab</i> -miR132	unconservative_LG13_23783	GTGCGATGACGGCCGCGCGGGCTCC
<i>Ab</i> -miR133	unconservative_LG13_23938	ACATTATCTAGGTTATTGAACTT
<i>Ab</i> -miR134	unconservative_LG13_25028	TACTGACTCATCAATAATATTCTG
<i>Ab</i> -miR135	unconservative_LG14_25402	TTAGGCTCAGAAGGTATGGTG
<i>Ab</i> -miR136	unconservative_LG14_25403	TTAGGCTCAGAAGGTATGGTG
<i>Ab</i> -miR137	unconservative_LG14_25604	AAATGATCTGAAGTTGAATGTGTC
<i>Ab</i> -miR138	unconservative_LG14_25863	CATGATGTCGACTAATAATAT
<i>Ab</i> -miR139	unconservative_LG15_26845	ATTGGCAATATACGCTATTCTGAGA
<i>Ab</i> -miR140	unconservative_LG15_27619	TTACGGTTGTAAGTAGTGAGC
<i>Ab</i> -miR141	unconservative_LG15_27794	TAAGTTGAACACGGTGAACCATTTC
<i>Ab</i> -miR142	unconservative_LG15_27889	TGCACTAATGTGAAGGAAATTGTAG
<i>Ab</i> -miR143	unconservative_LG16_28851	CTGTAAACCGCAGCAGCTCTTC
<i>Ab</i> -miR144	unconservative_LG16_29930	CTGCCAAAGGAGATTGCC
<i>Ab</i> -miR145	unconservative_LG17_30219	GTTGAAGTATGAGATGAGATGGAT
<i>Ab</i> -miR146	unconservative_LG19_32802	AAATGCTATTATTGGACGGT
<i>Ab</i> -miR147	unconservative_LG19_33497	AAATGCTATTATTGGACGGT
<i>Ab</i> -miR148	unconservative_LG20_34716	TAGATGTTGAGATCATATCTATC
<i>Ab</i> -miR149	unconservative_LG21_36012	AAAGAGTGGTAGAAAGGACTATA
<i>Ab</i> -miR150	unconservative_LG21_36022	AAAAGATCTCTTCCAATATTGTTG
<i>Ab</i> -miR151	unconservative_LG21_36397	TAAGTTGAACACGGTGAACCATTTC
<i>Ab</i> -miR152	unconservative_LG21_37127	TAAGGATCTACTGTTGAACAGAGT
<i>Ab</i> -miR153	unconservative_LG22_37439	AAAAACGGTCTATAGCTACACTTT
<i>Ab</i> -miR154	unconservative_LG22_38657	TTGACTGACTGGTCTTCTTTAG
<i>Ab</i> -miR155	unconservative_LG24_40567	AAGTGGTTGAGAGTTAGCATATC
<i>Ab</i> -miR156	unconservative_LG25_40921	TCGACTGTCCCTAGAGCAAGTGGC
<i>Ab</i> -miR157	unconservative_LG25_41071	GTTAGCACGTGACTGTCACITGAC
<i>Ab</i> -miR158	unconservative_LG25_41192	TCAATGCGATTCTCTGGAAT
<i>Ab</i> -miR159	unconservative_scaffold_1066_44611	ATTCGAACTTGCAGACTCGTTGCA
<i>Ab</i> -miR160	unconservative_scaffold_1511_46357	GGCGGATGTAGCCAAGTGGAA
<i>Ab</i> -miR161	unconservative_scaffold_1590_46617	GGCGGATGTAGCCAAGTGGAA
<i>Ab</i> -miR162	unconservative_scaffold_393_41527	CCGGATATACGCAATTGGACACGGC
<i>Ab</i> -miR163	unconservative_scaffold_864_43667	GGCGGATGTAGCCAAGTGGAA

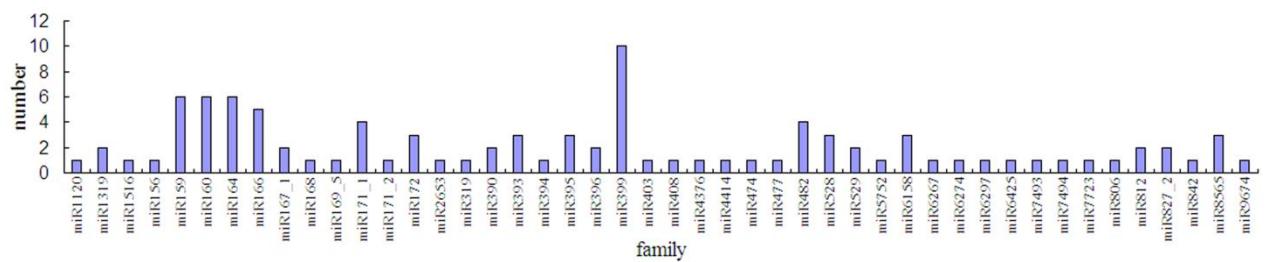
**Table S6.** Statistics of the functional annotation of potential target genes.

Anno database	Anno number	$300 \leq \text{length} < 1000$	$\text{Length} \geq 1000$
COG_Annotation	155	26	128
GO_Annotation	243	67	174
KEGG_Annotation	148	39	107
KOG_Annotation	228	55	172
Pfam_Annotation	363	87	273
Swissprot_Annotation	320	82	235
Nr_Annotation	414	112	298
All Annotated	418	113	300

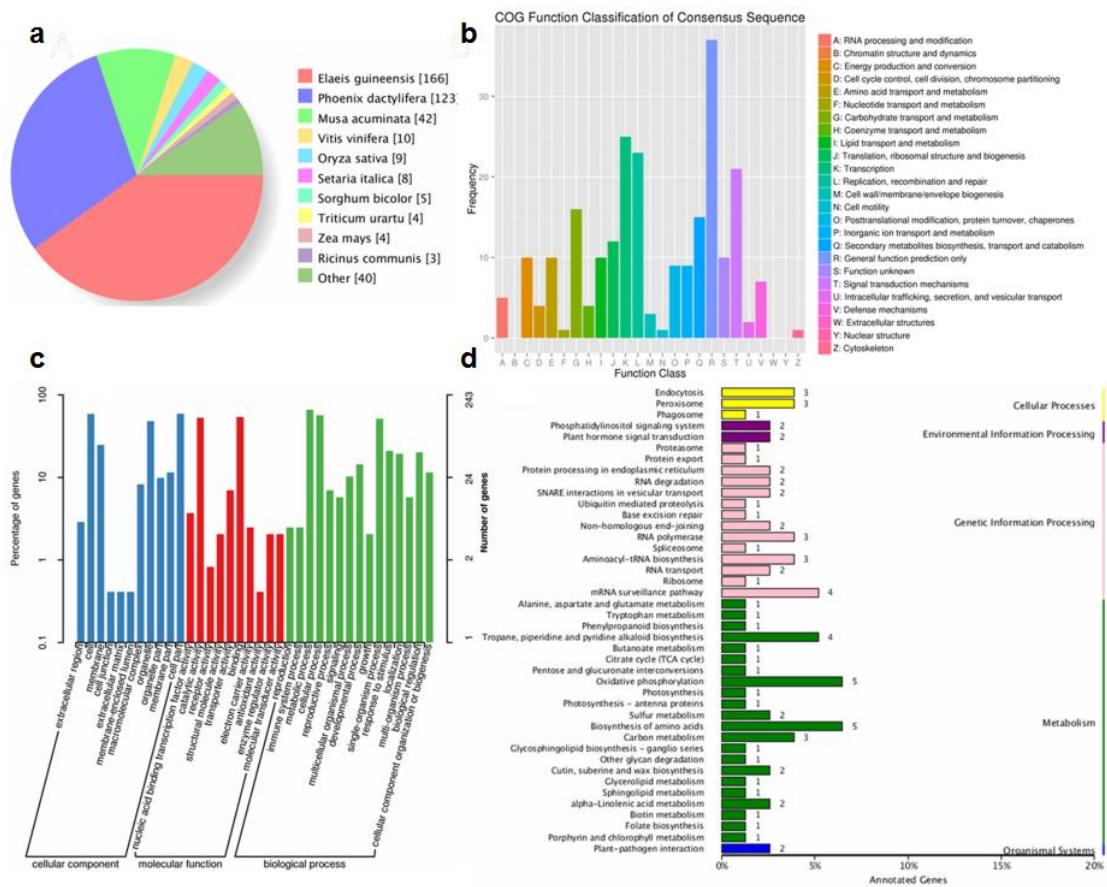
## SUPPLEMENTARY FIGURES



**Figure S1.** Length distribution and base bias analysis of miRNAs detected in six samples. **(a)** Length distribution of miRNAs. **(b)** Analysis of nucleotide bias percentage at miRNA first nucleotide bias in miRNAs. **(c)** Analysis of nucleotide bias percentage at each position in miRNAs.



**Figure S2.** Distribution of identical miRNA members in each family. Small RNA sequences were compared with currently known miRNAs in the miRbase database.



**Figure S3.** Annotation analysis of the miRNAs. **(a)** The Nr homologous species distribution of the candidate target genes. **(b)** Classification annotation of miRNA target genes based on COG database. **(c)** GO classification of miRNA target genes. **(d)** KEGG classification of miRNA target genes.